

Specification: Please amend the specification as follows:

Page 5, lines 8-31; Page 6, lines 1-16 (Three Times Amended):

Figure 3 shows an exploded view of the shaft assembly 2 of Figure 2.

The reference numbers of Figure 3 are used only for that figure and in Figure 4, although the referenced component names refer to substantially identical components among all the figures. A series of connected shafts comprise shaft components 1a supported at one end on the bearing 6a. The feed screw 2a engages at the visible end of its hollow shaft the noticeable spline of the shaft components 1a such that appropriate rotation of the shaft causes the feed screw also to rotate. One preferred form of the invention comprises the tooth bases 3a being connected to either of a left edge tooth ~~4~~ 4a or a right edge tooth 5a by slots and keys and tooth base screws 8a to teeth ~~4~~ 4a or 5a, whereafter the bases 3a are connected by slots and keys and tooth base to shaft screws ~~7~~ 7a to the shaft, thereby forming removable base 3a and teeth ~~4~~ 4a or 5a assemblies. This removable assembly concept for thermokinetic mixers is unknown in the prior art. The breadth of the concept of this aspect of the invention includes providing equivalent removable shaft extensions for all thermokinetic mixers. The disclosure herein enables the skilled person to adapt the removable extension concept to such prior art devices as disclosed above. The concept of the abutting slot and key attachments with securing screws has heretofore been unknown. More specifically, the base ~~3~~ 3a may be attached by welding wherein only a portion of the shaft extension is removably attached as described herein. Or in the alternate, the teeth ~~4~~ 4a or 5a or equivalent end portion of a shaft extension are a single piece with a base 3a or its equivalent in the prior art, the entire shaft extension thereafter being removable as disclosed herein for base 3a from the shaft comprising slots therefore. First row slots teeth sets 101', second row slots teeth sets 102', third row slots teeth sets 103', and fourth row slots teeth sets 104' correspond respectively with the first row slots 101, second row slots 102, third row slots 103, and fourth row slots 104 as shown

and described in and for Figure 4. The pattern of teeth ~~4~~4a and 5a in Figure 3 are a preferred embodiment of the invention. In one embodiment, a row slots teeth set comprises all teeth ~~4~~4a and 5a. In another embodiment, all row slots teeth sets comprise all teeth ~~4~~4a or ~~5~~5a or each rotationally successive row slots teeth set comprises all teeth ~~4~~4a followed by one of all teeth 5a. In the embodiment of Figure 3, each row slots teeth set comprises two teeth ~~4~~4a or ~~5~~5a whereby the rotationally adjacent row slots teeth sets to each such set comprises two teeth ~~4~~4a or 5a respectively. A most specific embodiment of Figure 3 shows first row slots teeth sets 101' with left to right teeth 5a / ~~4~~4a / ~~4~~4a, second row slots teeth sets 102' with left to right teeth 5a / ~~4~~4a / 5a, third row slots teeth sets 103' with left to right teeth ~~4~~4a / 5a / ~~4~~4a, and fourth row slots teeth sets 104' with left to right teeth 5a / ~~4~~4a / ~~4~~4a. As shown in Figure 4, this pattern produces a set to set staggering of the teeth faces as they rotate into a plane passing through the shaft 100 axis. This sets pattern of teeth faces

With reference to rest of the Figures 4-17, shaft components 1a are further shown to comprise an attachment shaft section 100 whereupon are located some of the attachment means for attaching bases 3a to the shaft components 1a. In this side view, first row slots 101, second row slots 102 and third row slots 103 are visible, a fourth row slots 104 existing on the opposite side of the section 100 and further disclosed in Figure 6.

Page 6, lines 28-31; Page 7, lines 1-30:

Each slot 101-104 further comprises a base to shaft screw ~~7~~7a hole 106 threaded to receive screws ~~7~~7a. The holes 106 are oriented to encourage retention of the tooth base key in the slots 101-104. The slots 101-104 are about 1.25 inches wide and 0.75 inches deep with internal cross section notches extending into the slot rectangle about 0.25 inches. The slot floor to floor width 107 is about 3.5 inches. Hole 106 angle 108 is about 20 degrees. For slots 101-104, the slot centerline to centerline distance 110 is about 1.75,

whereby it will be appreciated that each row slots teeth set is axially lengthwise staggered from its rotationally adjacent row slots teeth set. Preferably, the staggering is such that teeth of two rotationally adjacent row slots teeth sets passing through an axial plane in operation rotation are equally spaced. As a definition of a specific example herein, Figure 10 shows teeth faces of the sets 101'-104' in solid lines as they would appear rotationally passing the plane view as shown by the teeth faces 103' TEETH FACES in Figure 9. In broken lines in Figure 10 are shown the rotationally following set of teeth faces, as would be encountered by a particle in the mixing chamber striking a tooth face of one set if passing through the teeth of that set to encounter the teeth faces of the next set. For example, all the sets 101'-104' comprise, as easily seen in Figure 10, left to right adjacent teeth faces 5 5a and ~~4~~ 4a (as in Figure 3), such that the inclination of those adjacent tooth faces tends drives all particles encountered from just below the top inclined face in between the gap formed by such adjacent tooth faces. The major tooth faces of such adjacent teeth form a rough "V" shape with a gap in between. The effect of such combination of adjacent teeth causes the particles thus funneled to the gap to encounter the gap-filling tooth in the rotationally following set. Notwithstanding this more limited, albeit preferred embodiment, of adjacency of teeth faces, it is preferred that the staggering of teeth in rotationally adjacent sets result in a substantially gap-filling action as shown in Figure 10 so that particles encountering a first set of teeth may strike them and/or be funneled to a gap between adjacent teeth in a set such that a rotationally following set tooth face is oriented to fill such a gap when it rotates to the position of the leading set. As further described below, the tips of the teeth of sets 101'-104' when installed define a width 325 and a height 326 within an inside chamber circumference 327.

Shaft components 4 1a further comprises spline attachment means 109 is constructed and oriented to securingly engage the appropriate end of a mating extension for shaft 100 and spline attachment means 109A

constructed and oriented to securingly engage the appropriate end of a the feed screw 2 2a of Figure 3, thereby causing the feed screw to rotate with shaft components 4 1a.

Page 8, lines 15-24:

Right leading edge tooth 300 (as shown in Figure 3 as teeth 5 5a) comprises attachment means for attaching to the tooth base 200. When the tooth base is engaged with a slot of slots 101-104, the appropriately attached tooth 300 presents a tooth face to a shaft 100 axial plane when the tooth 300 rotates about shaft 100. The tooth face comprises a reticulated major face 300 having an acute angle with respect to said plane, the vertex of that acute angle being the leading edge 304 of the major face. The presentation of the leading edge 304 is preferably linear and parallel to the said plane, although such leading edge may be slightly angled into or away from said plane and still accomplish objects of the invention. The shape of the leading edge 304 may comprise smooth transitions or notches and still accomplish the object of the invention.

Page 9, lines 10-21; Page 6, lines 1-16:

The tooth 300 comprises in one preferred form a leading edge width 301 of about 3.2 inches, a following edge width 302 about 2.4 inches. A key 305 is formed in the upper convex portion of the L-shaped tooth 300, which key is insertable into the slot 204. The insertion can only be accomplished in one manner for the key 305 and slot 204 shown. Thus, the tooth 300 forms a protective cap or shield to the tooth base 200 as to encountering mixing chamber particles. A tooth to tooth base screw hole 306 receives the screw 8 8a as in Figure 3 for securing the tooth 300 to the tooth base 200. The tooth 200 further comprises a leading edge side 307, a following edge side 308, and a lower bevel face 309. Lower bevel face 309 comprises a portion of the tooth face below angled major face 304 in shaft 100 axis elevation. This face is preferred for avoiding agglomeration of melted particles at the shaft 100 to

tooth base 200 transition, although such a face may be minimized or eliminated with substantially the function of the invention device preserved.